

Please replace the paragraph beginning at page 1, line 10, with the following:

A2  
A fuel cell works best when the anode is supplied with neat hydrogen. In the design of practical systems, however, other factors also need to be considered, including the availability, cost, supply, distribution, storage and release of clean hydrogen. When all these factors are taken into consideration, alternative methods of fueling can shown an overall advantage.

Please replace the paragraph beginning at page 1, line 16, with the following:

FOR FHO" 34822860 A3  
The issue of fueling is very dependent on the type of application. For example, the design of fuel cell powered passenger vehicles requires a compact and responsive supply of hydrogen which must provide comparable driving performance to that of a combustion powered vehicle, as well as achieving higher efficiency and improved emission standards. Although conventional and novel on-board hydrogen storage options are being developed, these do not seem likely to meet the target requirements for mass, size and cost, in time to be used for the first generation of fuel cell vehicles. Instead, the technology most likely to be implemented in the short term is the on-board generation of hydrogen from a liquid or liquefied fuel. On the other hand, the design of domestic systems for generating heat and fuel cell power is less constrained by the need for compactness and speed of response. Furthermore, as the most widely available domestic fuel is natural gas, the efficient conversion of methane to hydrogen is seen as a key development target.

Please replace the paragraph beginning at page 2, line 25, with the following:

However, the disadvantages of methanol are equally familiar, notably:

- A4
- (i) relatively high toxicity;
  - (ii) high affinity for water, resulting in corrosiveness;
  - (iii) absence of infrastructure for supplying vehicle fueling stations; and
  - (iv) unsuitability for domestic use.

Please replace the paragraph beginning at page 3, line 1, with the following:

AS The question of supplying and distribution, in particular, has emerged as one of the key issues in the debate on the fueling of fuel-cell systems, with a strong case being made for the use of the most widely available fuels. This caused us to further investigate the feasibility of generating hydrogen from hydrocarbon fuels by the self-sustaining reaction of air and steam as can be accomplished *inter alia* by our HotSpot reactor.

IN THE CLAIMS:

Please replace claims 2, 3, 6-8, 10, 13, 18, 19, 21, and 22, with the following amended claims:

- A6
- 1
  2. (Amended) A process according to claim 1 wherein the
  - 2 stream is combined with the hydrocarbon and the oxygen-containing gas to form the
  - 3 mixture after the self-sustaining partial oxidation of the hydrocarbon has
  - 4 commenced.